# THE EXPERIENCES, CHALLENGES AND ACCEPTANCE OF e-LEARNING DURING THE COVID-19 PANDEMIC: A CROSS-SECTIONAL DESCRIPTIVE STUDY OF SECONDRY SCHOOL TEACHERS

**Synopsis**

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## 1.0.0 INTRODCUTION

Education plays a vital role in the development of any nation and this development of any nation depends upon quality of education. Education is the basic part of everyone's life and it is required for the development of an individual. Education imparts knowledge, skills, shapes, values and attitude.

The unexpected closure of educational institutions as a result of the emergence of COVID-19 prompted the authorities to suggest adopting alternatives to traditional learning methods in emergencies to ensure that students are not left without studying and to prevent the epidemic from spreading. The formal learning system with the help of electronic resources is known as e-learning. Whereas teaching can be inside (or outside) the classrooms, the use of computer technology and the Internet is the main component of e-learning (Aboagye et al. 2020).

The traditional educational methods were replaced by e-learning when the COVID-19 virus appeared because social gatherings in educational institutions are considered an opportunity for the virus to spread. E-learning is the best option available to ensure that epidemics do not spread, as it guarantees spatial distancing despite the challenges and studied figures, which indicate that students are less likely to benefit from this type of education (Lizcano et al. 2020).

Information and communication technologies (ICTs) offer unique educational and training opportunities as they improve teaching and learning, and innovation and creativity for people and organizations. Furthermore, the use of ICT can promote the development of an educational policy that encourages creative and innovative educational institution environments (Abdullah et al. 2019; Altawaty et al. 2020; Selim, 2007). Therefore, attention is given widely to efforts and experiences related to this type of education. This technology is commonly used by most universities in several developing countries. In an educational environment, there are lots of learning-related processes involved, and great amounts of potential rich data are generated in educational institutions continuously in order to extract knowledge from those data for a better understanding of learning-related processes (Aljawarneh, 2020; Lara et al. 2020; Lizcano et al. 2020).

### 1.0.1 E-learning

E-learning is a learning system that can be accessed via electronic devices; it is also called online learning or online education. E-learning provides education in situations where both the source of

information and the recipient are separated by time, distance, or both (Cook, Ley, Crawford, and Warner, 2009). E-learning is playing a vital role in the existing educational setting, as it changes the entire education system and becomes one of the greatest preferred topics for academics (Samir et al. 2014).

It is defined as the use of diverse kinds of ICT and electronic devices in teaching (Gaebel et al. (2014). Most students today want to study online and graduate from universities and colleges around the world, but they cannot go anywhere because they reside in isolated places without good communication services. Because of e-learning, participants can save time and effort for living in distant places from universities where they are registered, so, many scholars support online courses (Ms & Toro, 2013). Many users of e-learning platforms see that online learning helps ensure that e-learning can be easily managed, and the learner can easily access the teachers and teaching materials (Gautam, 2020; Mukhtar et al. 2020).

It also helped reduce the effort and travel expenses and other expenses that accompany traditional learning. E-learning reduced significantly the administrative effort, preparation and lectures recording, attendance, and leaving classes. Teachers, as well as students, see that online learning methods encouraged pursuing lessons from anywhere and in difficult circumstances that prevent them from reaching universities and schools. The student becomes a self-directed learner and learns simultaneously and asynchronously at any time. However, there are many drawbacks of e-learning, the most important of which is getting knowledge only on a theoretical basis and when it comes to using everything that learners have learned without applied practical skills. The face-to-face learning experience is missing, which may interest many learners and educators. Other problems are related to the online assessments, which may be limited to objective questions. Issues related to the security of online learning programs and user reliability are among the challenges of e-learning in addition to other difficulties that are always related to the misuse of technology (Gautam, 2020; Mukhtar et al. 2020).

Web-based education, digital learning, interactive learning, computer-assisted teaching and internet-based learning are known as E-learning (Aljawarneh, 2020; Lara et al. 2020; Yengin et al. 2011). It is mainly a web-based education system that provides learners with information or expertise utilizing

technology. The use of web-based technology for educational purposes has increased rapidly due to a drastic reduction in the cost of implementing these technologies. Nowadays, many universities have recognized the importance of E-learning as a core element of their learning system. Therefore, further research has been conducted to understand the difficulties, advantages, and challenges of e-learning in higher education. These issues have the potential to adversely affect instructors' quality in the delivery of educational material (Yengin et al. 2011).

Compared to developed countries, it was found that developing countries face many challenges in applying e-learning, including poor internet connection, insufficient knowledge about the use of information and communication technology, and weak content development (Aung & Khaing, 2015). The provision of content such as video and advanced applications is still a new thing for many educators, even at the higher education level in developing countries (Aljawarneh, 2020; Lara et al. 2020; Lizcano et al. 2020).

### 1.0.2 COVID-19

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus, its common clinical features vary between mild to moderate respiratory infections and recover without requiring special therapy. Elderly and those with critical medical complications like diabetes, chronic respiratory disease, cardiovascular disease, and cancer are expected to develop acute sickness. The best way to prevent and slow down transmission is to obtain information about the disease and how it spreads. The essential protective procedures against the new coronavirus are: -

- Hand washing or using an alcohol-based rub frequently.
- Avoiding touching the eyes, nose, and mouth
- Maintaining social distancing
- Practicing respiratory hygiene
- Seeking medical care when symptoms like fever, Cough and difficulty breathing appear (WHO, 2020).

E-learning and online learning are widely used as interchangeable terms. The differences between these terms are as, "E-learning is an on-line education defined as the self-paced or real-time delivery of training and education over the internet to an end-user device" (Lee & Lee, 2006). "E-learning is

the delivery of a learning, training or education program by electronic means" (Li, Lau & Dharmendran, 2009). The concept of online learning predates the appearance of the Web, but most recent publications about online learning refer to materials delivered over the Internet or intranets (e.g. Malopinsky, Kirkley, Stein, & Duffy, 2000; Schank, 2001; PBS, 2001).

E-learning is mostly associated with activities involving computers and interactive networks simultaneously. The computer does not need to be the central element of the activity or provide learning content. However, the computer and the network must hold a significant involvement in the learning activity. Online learning is associated with content readily accessible on a computer. The content may be on the Web or the Internet, or simply installed on a CD-ROM or the computer hard disk. Online learning is related to the more common concepts of online help, online documentation, and online services. It is associated with readily available learning materials in a computer environment. Often, online learning refers to learning materials directly accessible from within a core application (like in online help); however, learning materials available online on a network also qualify when readily accessible. Network use is not necessarily required, and in fact the concept of online learning surfaced before the development of the Web and before learning materials were delivered over the Internet or networks. (Tsai, S. & Machado, P., 2002)

Education became one of the important concerns of the government as it is with education; human beings can develop and can develop its civilization. The rapid development of technology and ICTs has influenced many fields, including education. The development of technology in education is now influential on learning media, which originally only use the board, or can be called black board / whiteboard, now already using LCD, Internet, even distance learning. The rapid development of technology has affected all aspects of life, especially how the use of internet media in improving the quality of education. This is because technology has affected everyday life. Technology always has various connections, ranging from hardware just to how to solve problems.

The research analyze the e-learning systems using the socio-technical systems approach, which treats a work system to be made up of two jointly independent, but correlative interacting systems - the social and the technical. The technical system is concerned with the processes, tasks, and technology needed to transform inputs to outputs. The social system is concerned with the attributes of people such as

attitudes, skills, values, the relationships among people, reward systems, and authority structures. Outputs of the work system are the result of joint interactions between these two systems.

Research use Leavitt's model to analyze e-learning systems as socio-technical systems. The model suggests that organizations form multivariate systems consisting of four interacting components - task, structure, actor, and technology. We observe that an e-Learning system can fit the definition of a sociotechnical system, as they involve teachers and learners (actor), the organization and the environment (structure), the knowledge and skills being imparted (task) and the technology used for e-learning (technology). In this research, we measure variables that represent these four components and understand their significance individually and their combined effect on effectiveness of e- learning systems. The outcome of this research tries to understand factors that influence the effectiveness of e-learning systems. (K T Upadhyaya & Debasis Mallik, 2013)

### 1.1.0 EMERGENCE OF THE PROBLEM

The need for education updating was required because of the fast advances in technology. They need to learn at any time, and any place was in its way to be achieved. (Wolfinger, 2016). Over the past two decades, online learning has been activated in some global institutes. However, most schools, colleges, and universities do not use this education mode, and their staff does not know what is involved in e-learning. MOOC (Massive Online Open Course) has facilitated and increased academics' awareness of online learning and its involvements (Lynch, 2004). The utilization of guidance for students to be motivated in virtual learning depends on practical orientation on cognitive, emotional, and behavioral engagement (Hartnett and Louwrens, 2015). The transition to a new environment of education, learners need special social care to improve their concentration and motivation to online learning in such a crucial crisis (Eccles et al., 1993; Harter, Whitesell, & Kowalski, 1992; Midgley, Anderman, & Hicks, 1995; Roeser & Eccles, 1998).

Nowadays, the challenges to access online learning are less because both learners and teachers have been experienced the excellent opportunity of knowing and interacting with educational technology tools such as mobile-based learning, computer-based learning, and web-based learning (Pellegrini, Mirella, Vladimir Uskov, & Casalino, 2020; Byun, Sooyeon, & Slavin, 2020). According to Prensky (2001), today's learners are entirely different from their predecessors because they are native speakers

of the technological language. Their interaction with the virtual and digital world is more. The interactions of today's' learners with different sorts of technology for various purposes enabled them to be active recipients of e-learning (Vai, Marjorie & Sosulski, 2015; Mohalikand & Sahoo, 2020; Ko & Rossen, 2017).

However, students reported positively the effectiveness of online learning during the pandemic. A meta-analysis study was conducted by Yildiz (2020) about recent trends in educational technology during 2015-2020. The study paid attention to several factors in the field. The findings of the study displayed that using educational technology in teaching and learning was appropriate. An article published by editorial board Liguori and Winkler (2020) is about the pandemic's impact on entrepreneurship education. They called for more studies and resources on the challenges regarding online entrepreneurship education. Another study explored the importance of online learning and investigated the analysis of weaknesses, strengths, challenges, and opportunities of online education in the time of the pandemic (Shivangi, 2020). The study provided some guidelines for dealing with online learning challenges at natural disasters and epidemics.

### 1.2.0 JUSTIFICATION OF THE PROBLEM

Several studies have addressed the opportunities and challenges associated with the transition to traditional learning instead of e-learning during COVID-19 pandemic. The following section presents the previous studies conducted in online learning during the COVID-19 crisis and some studies related to e- learning experiences, challenges and acceptance.

A study that aims to examine student challenges about how to deal with e-learning in the outbreak of COVID-19 and to examine whether students are prepared to study online or not is presented in (Aboagye et al. 2020). The study concluded that a blended approach that combines traditional and e-teaching must be available for learners. Another study that aims to explore the e-learning process among students who are familiar with web-based technology to advance their self-study skills is described in (Radha et al. 2020). The study results show that e-learning has become popular among students in all educational institutions in the period of lockdown due to the COVID-19 pandemic.

On April 2020, a study titled 'Curriculum delivery in Medical Education during an emergency: A guide based on the responses to the COVID-19 pandemic' was published, the study reveals the

obstacles and difficulties faculty members and students face as they transition from the traditional on-campus learning process to distant E-learning and the planning that was needed to make this transition possible in a short period of time. The obstacles faculty members and students encountered include team work, assessment, creating a sense of seriousness and urgency for students similar to that on campus, curriculum and content delivery, stress, lack of engagement and motivation from students, foreseeing challenges, supervision and evaluation (Taha, Abdalla, Wadi, and Khalafalla, 2020).

A study was conducted to evaluate students' views about the future of mobile learning after the current pandemic in basic education college in Kuwait. The study concluded with a good impression from the student in utilizing mobile learning in higher education. The advantage of the study is the recommendation for developing and teaching courses about m-learning use and application. This study's disadvantage is that the sample (52 participants) is insufficient to generalize m-learning in higher education (Alanezi & AlAzwani, 2020).

Another study explored online learning challenges in medical education during the COVID-19 outbreak (Rajab, Mohammad, Gazal, & Alkattan, 2020). The study engaged 208 participants: learners and faculty members in the college of medicine of Alfaisal university in Riyadh, Saudi Arabia. The study's reported that the challenges were communications, assessment, online education experience, technology use tools, time management, anxiety, and coronavirus disease stress.

Analyzing the effectiveness of E-learning for students at the university level has been introduced in (Ali et al. 2018). A questionnaire was applied to a sample of 700 students, 94.9% of them are utilizing different e-learning techniques and tools. To measure the reliability and internal consistency of the factors, Cronbach's alpha test is applied. To take out the variables and to calculate the factors loading in the study, the exploratory feature analysis is applied. The results demonstrate that students support that E-learning is easy to use, saves time, and affordable.

Assessing the learning effectiveness of e-learning was studied in (Somayeh et al. 2016). This analysis study was conducted using the databases of Medline and CINAHL and the search engine of Google. The research used covered review articles and English language meta-analysis. 38 papers including journals, books, and websites are investigated and categorized from the results obtained. The general advantages of E-learning such as the promotion of learning and speed and process of learning due to

individual needs were discussed. The study results indicated positive effects of E-learning on learning, so it is proposed that more use should be made of this education method, which needs the requisite grounds to be established. It is important to focus on analyzing the learner and student characteristics and motivating students to ensure their involvement in e-learning. Also, it is necessary to focus on the impact and extent of teacher acceptance of e-learning. The age difference between the teachers and the students indicates that the teachers received most of their studies and teaching skills through traditional teaching and learning methods, which may make their acceptance of e-learning different from the student' acceptance of modern methods of e-learning and education in general.

The effect of e-learning at the Payame Noor University of Hamedan, Iran on the innovation and material awareness of chemistry students was examined in (Zare et al. 2016). The research used a control group's pre-test/post-test experimental design. Data analysis findings using the independent t-test showed significantly better scores on calculated variables, information and innovation for the experimental group. Consequently, E-learning is beneficial for the acquisition of knowledge and innovation among chemistry students, and that a larger chance for E-learning should be given for broader audiences.

The strength of the relationship between students' motivation and e-learning is illustrated in (Harandi, 2015). Data was gathered from students at Tehran Alzahra University, and Pearson's correlation coefficient was utilized for data analysis. The outcomes of this study revealed that some points should be considered before using E-learning. However, this study was restricted to one culture, which can limit the generalization of its results.

A study in (Arkorful & Abaidoo, 2015) aimed to explore the literature and provide the study with a theoretical context by reviewing some publications made by different academics and universities on the definition of E-learning, its use in education and learning in institutions of higher education. The general literature described the pros and cons of E-learning, which showed that it needs to be enforced in higher education for teachers, supervisors and students to experience the full advantages of acceptance and implementation.

Various predictions of e-learning for educational purposes have been illustrated in (Samir et al. 2014). The study aims to show how to keep students motivated in e-learning. The evaluation of student

motivations for online learning can be challenging because of the lack of face-to-face contact between learners and teachers. The study shows that one way to increase student's motivation is by allowing them to complete an online assessment form on motivation. The study suggests five research hypotheses to be inspected to identify which hypothesis should be accepted and which should not.

A study that aims to investigate the characteristics, benefits, drawbacks and features that impact E-learning has been presented in (Ms & Toro, 2013). Some of the demographic features such as behaviors and cultural background impact student education in the E-learning domain. Therefore, for lecturers to design educational activities to make learning more effective, they should understand these features. The study is applied to students in Lebanon and England to assist instructors to understand what scholars expect from the learning management systems.

The study described in (Oludare Jethro et al. 2012) showed that e-learning is a new atmosphere for scholars, as it illustrates how to make e-learning more effective in the educational field and the advantages of using e-learning. The outcome of the study showed that the students were willing to learn more with less social communication with other students or lecturers.

The work described in (GOYAL & S., 2012) has tried to emphasize the importance of e-learning in modern teaching and illustrates its advantages and disadvantages. Also, the comparison with Instructor Led Training (ILT) and the probability of applying E-learning instead of old classroom teaching was discussed. In addition, the study showed the major drawbacks of ILT in institutions and how using E-learning can assist in overcoming these problems.

The study is (Yengin et al. 2011) illustrated that the most vital role in the e-learning design outlook is online lecturers. As a result, considering the issues impacting lecturers' performance should be taken into the account. One of the features that impact the usability of the system and lecturers' presentation is satisfaction. The results showed, to produce a simple model called the "E-learning Success Model for Instructors' Satisfactions" that is related to public, logical and technical communications of instructors in the entire e-learning system, the features associated with teachers' satisfaction in e-learning systems have been examined.

So, the researcher wanted to take up a study to show the experiences, challenges and acceptance of e-learning during the covid-19 pandemic. So far it was found that no study has been conducted in secondary education.

After reviewing various researches, the following are the questions that arises in the mind of the researcher in the contact of e- learning during COVID-19 pandemic –

1. What were the experiences gained by secondary school teachers in e-learning during COVID-19 pandemic?
2. What were the challenges faced by secondary school teachers in e-learning during COVID-19 pandemic?
3. What was the status of acceptance of secondary school teachers in e-learning during COVID-19 pandemic?
4. What were the differences in e-learning experiences of different categories of secondary school teachers during COVID-19?
5. What were the differences in e-learning challenges of different categories of secondary school teachers during COVID-19?
6. What were the differences in e-learning level of acceptance of different categories of secondary school teachers during COVID-19?

## 2.0.0 STATEMENT OF THE PROBLEM

The Experiences, Challenges and Acceptance of e-Learning during the Covid-19 Pandemic: A Cross-Sectional Descriptive Study of Secondary School Teachers.

## 3.0.0 DEFINITIONS OF THE TERMS TO BE USED IN THE STUDY

### 3.1.0 E-LEARNING

"E-learning refers to educational processes that utilise information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities" (Jereb & Smitek, 2006).

**Operational Definition**

In the present study, E-learning refers to the learning in online mode in which whole education system transmitted from physical mode to online or electronic mode with the help of internet and advanced technology.

### 3.2.0 COVID-19

‘‘Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Most people infected with the virus will experience mild to moderate respiratory illness and recover without requiring special treatment. However, some will become seriously ill and require medical attention. Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness. Anyone can get sick with COVID-19 and become seriously ill or die at any age. The best way to prevent and slow down transmission is to be well informed about the disease and how the virus spreads. Protect yourself and others from infection by staying at least 1 metre apart from others, wearing a properly fitted mask, and washing your hands or using an alcohol-based rub frequently. Get vaccinated when it’s your turn and follow local guidance’’ (WHO, 2020).

**Operational Definition**

In the present study, Coronavirus disease (COVID-19) refers to contagious disease discovered by SARS-CoV-2 virus. It is the clinical features vary between mild to moderate respiratory infections and recover without requiring special therapy. Those people with critical medical complications are expected to develop acute sickness.

### 3.3.0 SECONDARY SCHOOL TEACHER

A person who teaches at a secondary school. (Collins dictionary, NA).

**Operational Definition**

In the present study, secondary school teacher refer to the teacher who teaches the students of class $9^{th}$ to $12^{th}$.

### 3.4.0 EXPERIENCE

Experience is used to refer to the past events, knowledge, and feelings that make up someone's life or character. (Collins dictionary, 2022)

**Operational Definition**

In the present study, experience refers to gained knowledge, skills and conscious efforts derived from the direct perceived observation in an events or situation or an activity.

**3.5.0 CHALLENGE**

A challenge is something new and difficult which requires great effort and determination. (Collins dictionary, 2022)

**Operational Definition**

In the present study, Challenge refers to something noble situation encountered by teachers, students, and other stake holders of education that need to great mental, emotional and physical efforts and courage to overcome it.

**3.6.0 ACCEPTANCE**

Acceptance of an offer or a proposal is the act of saying yes to it or agreeing to it. (Collins dictionary, 2022)

**Operational Definition**

In the present study, Acceptance is an act or idea in which most of the people believe or agree or ready to face the new situation and challenges.

**4.0.0 OBJECTIVES OF THE STUDY**

The objectives of the present study are:

1. To study experiences of secondary school teachers with respect of e-learning during COVID-19 pandemic.
2. To investigate the challenges faced by secondary school teachers with respect of e-learning during COVID-19 pandemic.
3. To access the acceptance of secondary school teachers with respect of e-learning during COVID-19 pandemic.
4. To compare the e-learning experiences of secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.
5. To compare the challenges of e-learning faced by secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.

6. To compare the acceptance of e-learning of secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.

**5.0.0 HYPOTHESES OF THE STUDY**

With respect to objectives, the following null hypotheses have been framed:

$Ho_1$: There is no significance difference of e-learning experiences of secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.

$Ho_2$: There is no significance difference of e-learning challenges faced by secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.

$Ho_3$: There is no significance difference of e-learning acceptance of secondary school teachers with respect to age, gender, area, stream and board during COVID-19 pandemic.

**6.0.0 RESEARCH METHODOLOGY**

The research methodologies of this study are –

**7.0.0 VARIABLES OF THE STUDY**

The variables of the study are as follows:

- **Independent Variable**: COVID-19, Age, Gender, Area, Stream and Board
- **Dependent Variable**: Experiences, Challenges & Acceptance of e-Learning

**8.0.0 DELIMITATION OF THE STUDY**

The study will be delimited with respect to the following points:

1. The study will be delimited to Agra city only.
2. Only secondary school teachers will be selected for the study.
3. The present study will be delimited to secondary schools affiliated to U.P., C.B.S.E., I.C.S.E. & D.E.I. board of Agra region of Uttar Pradesh.
4. The study will be delimited to secondary school of Agra city having Science, Commerce and Art stream.
5. The present study will be confined to age, gender, area, stream and board as demographic variables.

## 9.0.0 METHOD OF THE STUDY

Keeping the nature of problem in mind, the researcher will use Cross sectional descriptive survey method of research in the present study.

## 10.0.0 POPULATION AND SAMPLE

The population will be secondary school teachers form Agra city who are engaged in the e-learning process. The sample size will be taken 540 secondary school teachers in which 240 from U. P. Board, 240 from C.B.S.E. Board and 60 from I.C.S.E. & D.E.I. Board.

**Table 1: Selection of the sample**

| **Stream** | **Gender** | **U. P. Board** | | | | **C.B.S.E. Board** | | | | **ICSE & D.E.I. Board** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Govt.** | | **Private** | | **Govt.** | | **Private** | | **Govt.** | **Private** |
| | **(M/F)** | **Rural** | **Urban** | **Rural** | **Urban** | **Rural** | **Urban** | **Rural** | **Urban** | **Urban** | **Urban** |
| Science | Male | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| | Female | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| Arts | Male | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| | Female | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| Commerce | Male | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| | Female | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 |
| Sub Total | | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 30 | 30 |
| Total | | 120 | | 120 | | 120 | | 120 | | 60 | |
| **G. Total** | | **240** | | | | **240** | | | | **60** | |

The researcher will follow purposive and random sampling method. Multilevel Mixed Method sampling Strategies are very common in research examining organizations in which different units of analysis are ‘‘nested within one another.’’ In studies of these nested organizations, researchers are often interested in answering questions related to two or more levels or units of analysis.

Multilevel Mixed Method sampling from K-12 educational settings often involve the following five levels: state school systems, school districts, schools, teachers or classrooms, and students. Many educational research studies focus on the school and teacher levels because those are the levels that most directly impact students’ learning (Reynolds & Teddlie, 2000)

## 11.0.0 RESEARCH PROCEDURE OF THE STUDY

Research procedure will be as follows

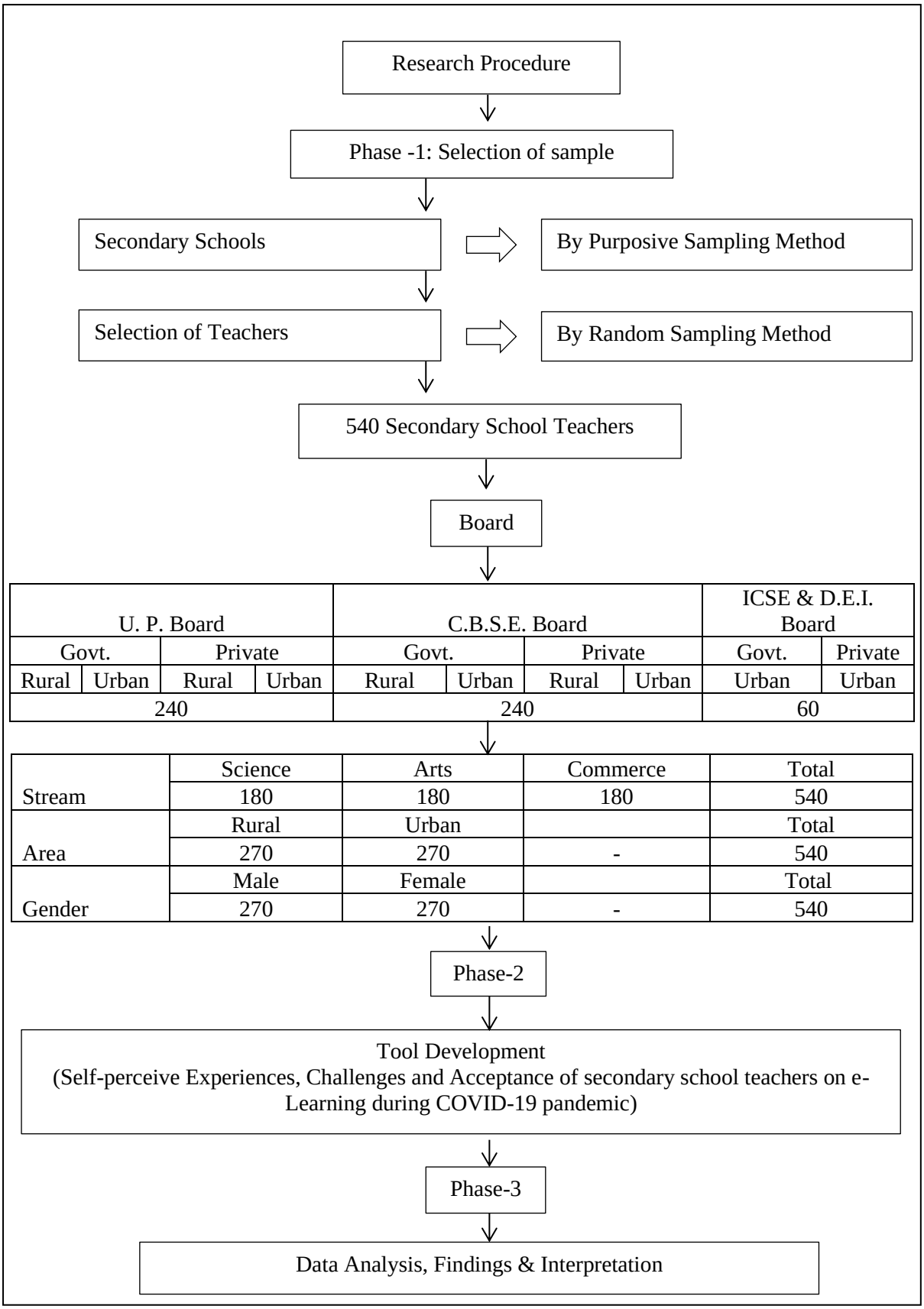


**Figure 1: Research Procedure**

## 12.0.0 TOOL OF THE STUDY

A self-made questionnaire will be prepared by the researcher to study the experiences, challenges and acceptance of secondary school teachers on e-Learning during COVID-19 pandemic.

## 13.0.0 STATISTICAL TECHNIQUES

Descriptive Analysis will be performed for qualitative data by frequencies and percentages as applicable. Mann-Whitney U test & Kruskal-Wallis test will be used as inferential statistics. Graphical representation will be used for presenting data and results in visual form.

## 14.0.0 SIGNIFICANCE OF THE STUDY

Online learning has been shown to increase retention of information, and take less time, meaning the changes coronavirus have caused might be here to stay. Although there have been massive challenges for educators, schools, institutes and the government regarding online education from a different angle, there are several opportunities created by the COVID-19 pandemic for the unprepared and the distant plans of implementing e- learning system.

It has created a strong connection between teachers and parents than ever before. The homeschooling requires parents to support the students' learning academically and economically. Children with disabilities need additional and special support during this ongoing emergency.

The use of online platforms such as Google Classroom, Google Meet, Zoom, virtual learning environment and social media and various group forums like Telegram, Messenger, WhatsApp and WeChat are explored and tried for teaching and learning for the first time ever to continue education. This can be explored further even after face-to-face teaching resumes and these platforms can provide additional resources and coaching to the learners.

Teachers are obliged to develop creative initiatives that assist to overcome the limitations of virtual teaching. Teachers are actively collaborating with one another at a local level to improve online teaching methods. There are incomparable opportunities for cooperation, creative solutions and willingness to learn from others and try new tools as educators, parents and students share similar experiences (Doucet et al., 2020). Many educational organizations are offering their tools and solutions for free to help and support teaching and learning in a more interactive and engaging

environment. Online learning has provided the opportunity to teach and learn in innovative ways unlike the teaching and learning experiences in the normal classroom setting.

Online education allows a child to study at their own pace and also gives them a chance to personalize their curriculum, neither of which is possible in a typical offline learning system.

Further, it enables a child to learn conveniently from their houses and makes education accessible even to those who cannot afford the comparatively expensive option of physical learning. Another added benefit of online learning is that students can track their performance minutely with the help of automated online records.

It also allows children to repeat lectures and saves them time spent on taking notes and such by offering recording options on the lectures. Lastly, the way online education spreads across geographical boundaries, allows students to gain knowledge from all parts of the world, which is not usually possible for many children in physical settings.

So, the present study might be significant because it gives the freedom to students to learn their own pace and it will satisfy the needs of the learner in online mode during COVID-19 pandemic.

**REFERENCES**

Aboagye, E., Yawson, J. A., & Appiah, K. N. (2020). COVID-19 and E-learning: The Challenges of Students in Tertiary Institutions. *Social Education Research, 2*(1), 1–8. https:// doi. org/ 10. 37256/ ser.21202 1422.

Ahmed, H., Allaf, M. and Elghazaly, H. (2020) 'COVID-19 and medical education', *The Lancet Infectious Diseases*. 20, 7, p777-778. https://doi.org/10.1016/s1473-3099(20)30226-7

Alajmi, M. (2010) 'Faculty members' readiness for e-learning in the college of basic education in Kuwait', *University of North Texas*. https://digital.library.unt.edu/ark:/67531/metadc31523/ (Accessed: 25 April 2020).

Alenezi, A. (2012) 'Faculty members perception of e-learning in higher education in the Kingdom of Saudi Arabia (KSA)'. https://ttu-ir.tdl.org/handle/2346/45399 (Accessed: 25 April 2020).

Alharbi, Y. A. (2002) 'A study of the barriers and attitudes of faculty and administrators toward implementation of online courses', *University of Northern* Colorado. https://www.learntechlib.org/p/127666/ (Accessed: 20 April 2020).

Ali, M., Khaled Hossain, S. M., & Ahmed, T. (2018). Effectiveness of E-learning for university students: Evidence from Bangladesh. *Asian Journal of Empirical Research., 8*(10), 352–360. https:// doi. org/ 10. 18488/ journal. 1007/ 2018.8. 10/ 1007. 10. 352. 360.

Alkhamees AA, Alrashed SA, Alzunaydi AA. (2020). The psychological impact of COVID-19 pandemic on the general population of Saudi Arabia. Compr Psychiatry 2020; 102: 152192.

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning.12*(1), 29 42.

Baig, M., Gazzaz, Z. J. and Farouq, M. (2020) 'Blended Learning: The impact of blackboard formative assessment on the final marks and student's perception of its effectiveness', *Pakistan Journal of Medical Sciences,* 36**,** 327. https://doi.org/10.12669/pjms.36.3.1925

Basilaia, G., Kvavadze, D. (2020). Transition to online education in schools during a SARS- CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4), 10. https://doi.org/10.29333/pr/7937 Google Scholar

Cook, R. G., Ley, K., Crawford, C. and Warner, A. (2009) 'Motivators and inhibitors for university faculty in distance and e-learning', *British Journal of Educational Technology*, 40**,** 149-163. https://doi.org/10.1111/j.1467-8535.2008.00845.x

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crises. *Journal of Educational Technology*, 49(1), 5–22. https://doi.org/10.1177/0047239520934018 Google Scholar

Doucet, A., Netolicky, D., Timmers, K., Tuscano, F. J. (2020). *Thinking about pedagogy in an unfolding pandemic* (An Independent Report on Approaches to Distance Learning during COVID-19 School Closure). Work of Education International and UNESCO. https://issuu.com/educationinternational/docs/2020_research_covid-19_eng Google Scholar

Goyal, S. (2012). E-learning: Future of education. *Journal of Education and Learning (EduLearn)., 6*(4), 239. https:// doi. org/ 10. 11591/ edule arn. v6i4. 168.

Haidar, N. A. (2014) 'Perceptions of higher education online learning faculty in Lebanon', *Walden Univerisity*.

https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1103&context=dissertations (Accessed: 20 April 2020).

International Council for Open and Distance Learning (ICDE) (2020) 'Task Force and global campaign during the Corona Virus Pandemic #learning together'. *International Council for Open and Distance Learning (ICDE)*. Available at: https://www.icde.org/icde-blog/2020/3/30/open-online-and-distance teaching-and-learning-during-the-corona-virus pandemic- learningtogether-1 (Accessed: 20 April 2020).

Kim, K.-J., Kang, Y. and Kim, G. (2017) 'The gap between medical faculty perceptions and use of e-learning resources', *Medical Education Online,* 22**,** 1338504. https://doi.org/10.1080/10872981.2017.1338504

Liaw, S.-S. (2008) 'Investigating students perceived satisfaction, behavioral intention, and effectiveness of elearning: A case study of the Blackboard system', *Computers & Education,* 51**,** 864-873. https://doi.org/10.1016/j.compedu.2007.09.005

Mirjana Radović-Marković, (2010) 'Advantages and disadvantages of e-learning in comparison to traditional forms of learning', *Annals of the University of Petrosani, Economics,* 10**,** 289-298. https://ideas.repec.org/a/pet/annals/v10y2010i2p289-298.html (Accessed: 1 May 2020).

Murgatrotd, S. (2020, March). *COVID-19 and Online learning, Alberta, Canada*. doi:10.13140/RG.2.2.31132.8512. Google Scholar

O'Doherty, D., Dromey, M., Lougheed, J., Hannigan, A., *et al.*, (2018) 'Barriers and solutions to online learning in medical education an integrative review', *BMC Medical Education,* 18**,** 130. https://doi.org/10.1186/s12909-018-1240-0

Ossiannilsson, E. (2020) 'Some Challenges for Universities, in a Post Crisis, as Covid-19', *Radical Solutions for Education in a Crisis Context.* Springer. https://link.springer.com/chapter/10.1007/978-981 15-7869-4_7 (Accessed: 1 May 2020).

Petrie, C. (2020). *Spotlight: Quality education for all during COVID-19 crisis* (hundr*ED* Research Report #01). United Nations. https://hundred.org/en/collections/quality-education-for-all-during-coronavirus Google Scholar

Radha, R., Mahalakshmi, K., Sathish, V., & Saravanakumar, A. R. (2020). E-learning during lockdown of Covid-19 pandemic: A Global Perspective. *International Journal of Control and Automation, 13*(4), 1088–1099.

Samir, M., El-Seoud, A., Taj-Eddin, I. A. T. F., Seddiek, N., El-Khouly, M. M., & Nosseir, A. (2014). E-learning and Students' Motivation: A Research Study on the Effect of E-learning on Higher Education. *International Journal of Emerging Technologies in Learning., 9*(4), 20–26. https:// doi. org/ 10. 3991/ ijet. v9i4. 3465.

Shah SMA, Mohammad D, Qureshi MFH, (2021). Prevalence, psychological responses and associated correlates of depression, anxiety and stress in a global population, during the coronavirus disease (COVID-19) pandemic. Community Ment Health J 2021; 57(1): 101–110.

Taha, M. H., Abdalla, M. E., Wadi, M. and Khalafalla, H. (2020) 'Curriculum delivery in Medical Education during an emergency: A guide based on the responses to the COVID-19 pandemic', *MedEdPublish,* 9. https://doi.org/10.15694/mep.2020.000069.1

Tee ML, Tee CA, Anlacan JP, (2020). Psychological impact of COVID-19 pandemic in the Philippines. J Affect Disord 2020; 277: 379–391.

UNESCO (2020) 'COVID-19 Educational Disruption and Response', *en.unesco.org*. Available at: https://en.unesco.org/themes/education-emergencies/coronavirus-school-closures (Accessed: 5 May 2020).

United Nations. (2020). *Policy brief: Education during COVID-19 and beyond*. United Nations. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf Google Scholar

Verma S and Mishra A. (2021). Depression, anxiety, and stress and socio-demographic correlates among general Indian public during COVID-19. Int J Soc Psychiatry 2020; 66(8): 756–762.

WHO (2020) 'Health topics/ coronavirus', *World Health Organization*. Available at: https://www.who.int/health-topics/coronavirus#tab=tab_1 (Accessed: 5 May 2020).

Zhen, Y., Garthwait, A. and Pratt, P. (2008) ‘Factors affecting faculty members' decision to teach or not to teach online in higher education’, *Online Journal of Distance Learning Administration,* 11. https://www.westga.edu/~distance/ojdla/fall113/zhen113.html (Accessed: 3 May 2020).